



# "Avoiding Tween Tragedy"

North Central Highway Safety Network, Inc

Demonstration Project to Increase Seat Belt Use Among  
8- to 15-year-old Motor Vehicle Occupants

Final Presentation Meeting  
December 11, 2007

# PROJECT OVERVIEW

## Management Team

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# Project Overview

- The purpose of this project, Avoiding Tween Tragedy (ATT) was to increase seat belt use among 8-to 15-year-old motor vehicle occupants (Tweens) by using a comprehensive approach involving police-driven educational programs, earned and paid media, and enforcement of Pennsylvania's occupant protection law.
- Fifteen school districts, comprised of 15 high schools, 15 junior high schools, and 31 elementary schools, participated along with law enforcement officers from 13 municipal police departments and two Pennsylvania State Police barracks. Intervention components included three age-appropriate educational programs, innovative enforcement strategies, community outreach, and earned/paid media exposure involving radio, television, and newsprint.

# Goals and Strategies

The goal of ATT was to demonstrate that specifically designed community education, social marketing, public information and enforcement of occupant restraint laws could increase seat belt use among Tweens.

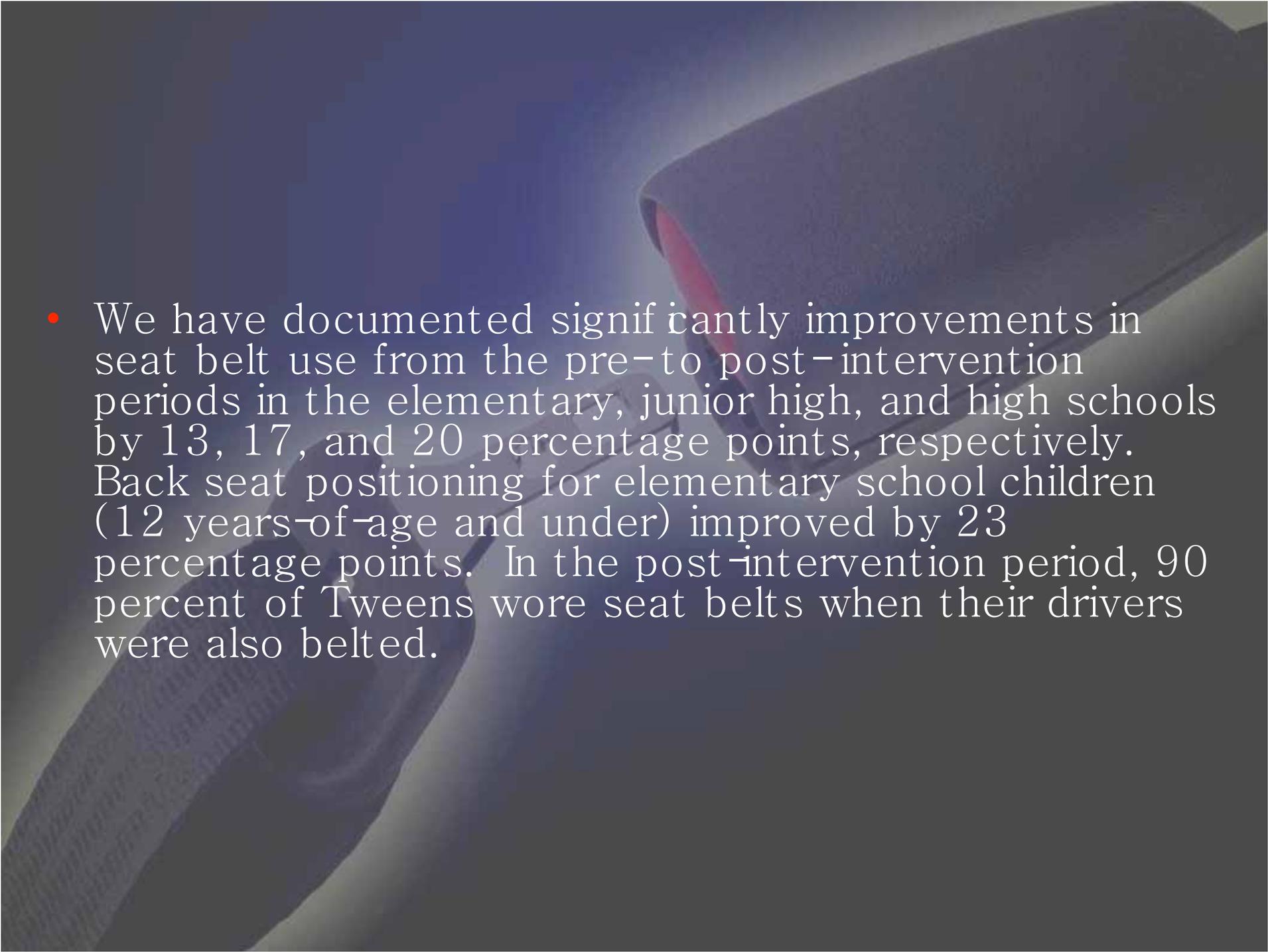
To achieve this goal, the team created the following strategies:

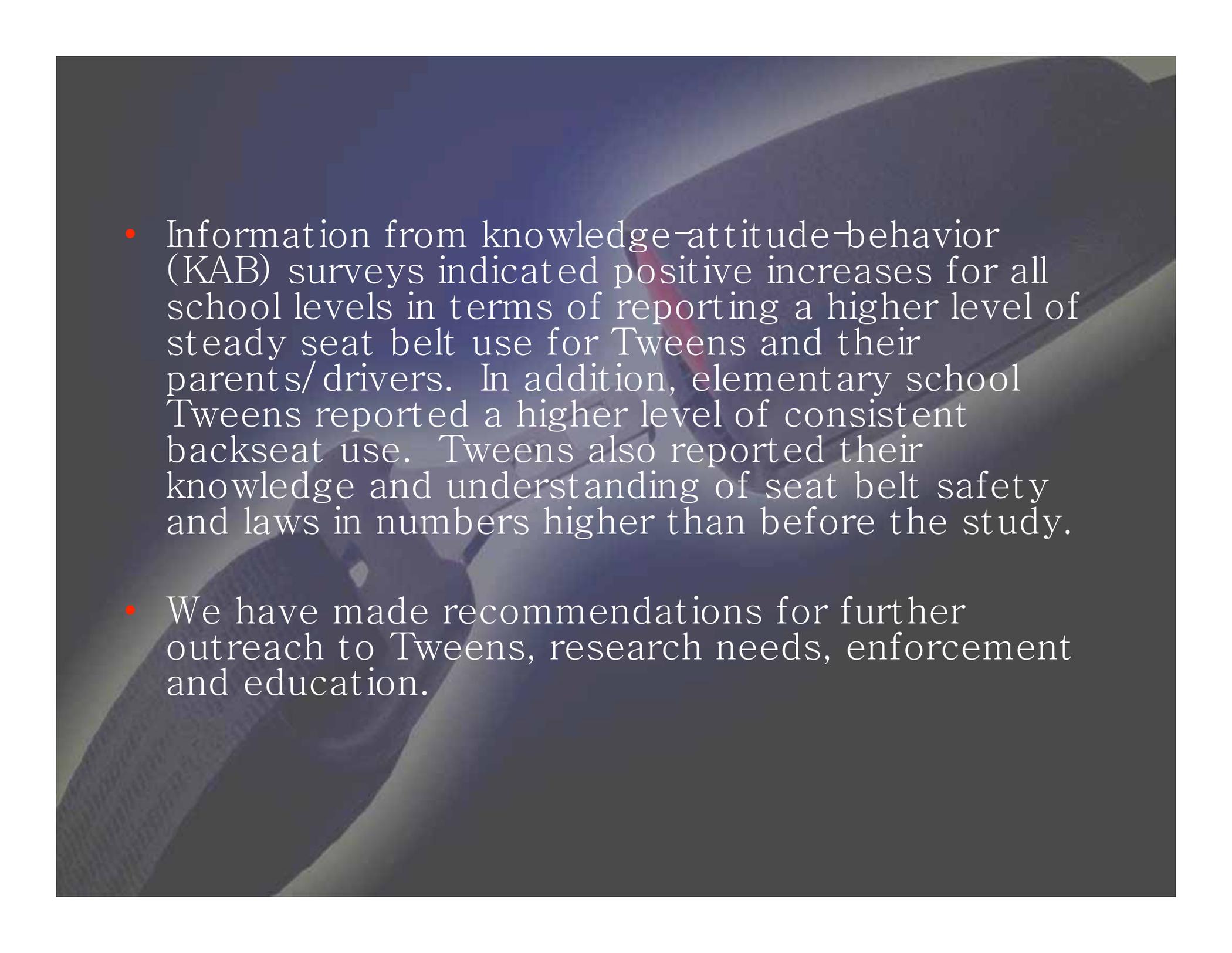
- multi-faceted intervention approach, utilizing enforcement, education, and earned media for Tween interventions
- effective measurement tools for intervention strategies
- a summary evaluation report

# EXECUTIVE SUMMARY

- The 8 to 15 year old age group is often left out of specific consideration in terms of highway safety.
- This project evaluated the effectiveness of intervention programs aimed at improving restraint use among Tweens in a community.



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- We have documented significantly improvements in seat belt use from the pre-to post-intervention periods in the elementary, junior high, and high schools by 13, 17, and 20 percentage points, respectively. Back seat positioning for elementary school children (12 years-of-age and under) improved by 23 percentage points. In the post-intervention period, 90 percent of Tweens wore seat belts when their drivers were also belted.

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- A close-up, low-angle shot of a hand holding a pen over a document, with a seat belt buckle visible in the foreground. The background is dark and out of focus, emphasizing the hand and the pen. The text is overlaid on the right side of the image.
- Information from knowledge–attitude–behavior (KAB) surveys indicated positive increases for all school levels in terms of reporting a higher level of steady seat belt use for Tweens and their parents/drivers. In addition, elementary school Tweens reported a higher level of consistent backseat use. Tweens also reported their knowledge and understanding of seat belt safety and laws in numbers higher than before the study.
  - We have made recommendations for further outreach to Tweens, research needs, enforcement and education.

# Pennsylvania's Seat Belt Law

- Primary Offense—All drivers are responsible to secure children from birth to age 4 in an approved child passenger restraint system
- Primary Offense—A driver who is under 18 may not operate a motor vehicle in which the number of passengers exceeds the number of available seat belts in the vehicle
- Secondary Offense—All drivers and front seat passengers must be restrained
- Secondary Offense—All drivers are responsible to secure children from 4 years of age up to 8 years of age in a seat belt system and an appropriately fitting child booster seat.
- Secondary Offense—Drivers are responsible for themselves and to secure all children from 8 years of age up to 18 years of age in a seat belt system anywhere in the vehicle

# Problem Identification

Occupant protection begins its fatal decline in the Tween years.

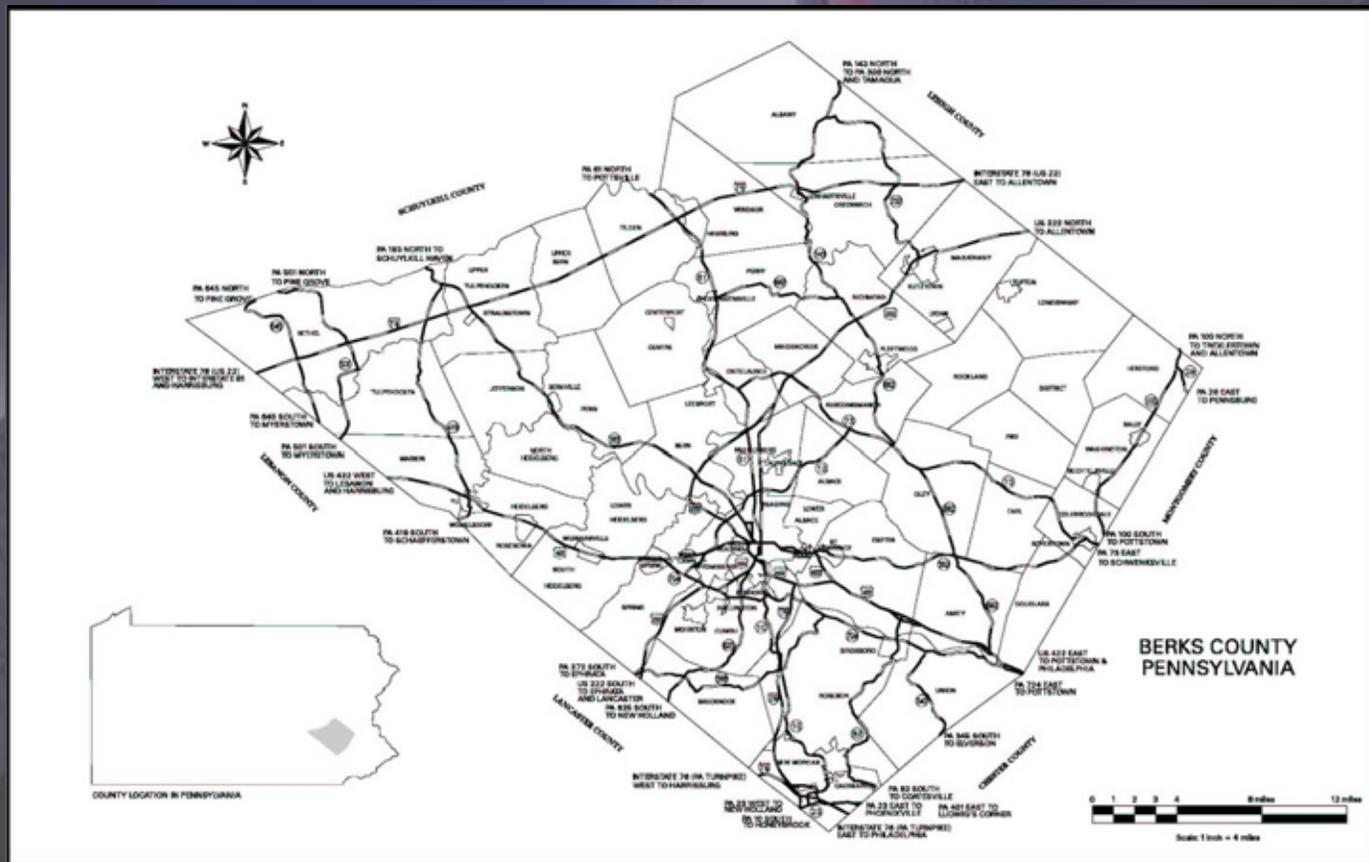
- In 2005 there were more than 900 passenger vehicle occupant fatalities among children 8-15 years old.
- Of the 836 fatalities where restraint use was known, almost 60 percent of the children were unrestrained. (NHTSA 2006).
- For the years 2000, 2001 and 2003, Pennsylvania recorded 41,939 crashes, 20,872 injuries and 130 fatalities in the 8 to 15-year old group.

# Site Description and Community Characteristics

- Berks County was a manageable evaluation environment and cost-efficient. Most importantly, Berks County had communities that were established with active education, community and enforcement organizations.
- Berks County is situated in southeastern Pennsylvania at the intersection of the New York–Washington, D.C. corridor. This market includes Philadelphia, 56 miles to the southeast; Baltimore, 97 miles south; and New York, 125 miles northeast. The county covers an 864 square-mile area.
- Full-time Community Traffic Safety Partner (CTSP)
- Buckle Up PA program with 24 municipal police departments under contract for seat belt mobilizations. These departments represented 85 percent of Berks County's population. Both the regional LEL and safety coordinator were members of the Berks County Chiefs of Police Association.
- The City of Reading was the site of one of the country's first nighttime seatbelt enforcement demonstration projects.

# Berks County

Berks County, Pennsylvania was selected as the demonstration site for this project. It has a population base of 377,697 it contains both urban and rural environments. Berks County will provide an excellent setting in which to introduce intervention strategies and measure results that can be replicated in other locations.



# School Districts

- To randomly select school districts for intervention, Berks County was divided into four quadrants. In each quadrant, schools were then divided by size (enrollment), and location (rural vs. urban). A total of 12 schools (three from each quadrant) were selected for intervention. This selection process allowed schools from the entire county to be represented; small and large schools, rural and urban schools.
- Through the Superintendents meetings were arranged with all participants at the treatment facilities. Typically, those in attendance at the meetings included superintendents, assistant superintendents, principals and vice-principals, and support staff. Police accompanied the project coordinator at most of these meetings. An agenda was created that highlighted what a commitment from the school would entail.
- School Districts in Northumberland County were chosen as comparison sites. Three school districts in Berks were selected for comparison purposes.
- A total of Fifteen school districts participated in ATT. Eight were treatment districts in Berks; three were comparison districts in Berks, and four were comparison districts in Northumberland.
- In Berks County a total of 41 schools received interventions: 24 Elementary, 9 junior high schools, and 8 high schools.

# Law Enforcement

- 2 PA State Police Stations
- 13 Municipal Police Departments
- 421 Educational Interventions
- 798 Enforcement Interventions
- Active Support of Berks County Chief's of Police Association which represents all Berks Law Enforcement Agencies



# Law Enforcement

- Operating procedures were developed to address all enforcement and educational interventions
- A zero tolerance policy was encouraged for all occupant protections violations
- Enforcement focused on roadways near schools, primarily during arrival and dismissal times; and also areas where Tweens were known to congregate, such as youth centers, playgrounds and ball fields. .
- Whenever possible, police were encouraged to conduct enforcement activities the same day as an educational intervention

# Enforcement

- Informational Sites
- Active/Passive minicades
- Traffic Safety Checkpoints
- Aggressive Roving Patrols emphasizing writing the primary & secondary citation
- Joint Operations—Municipal & State

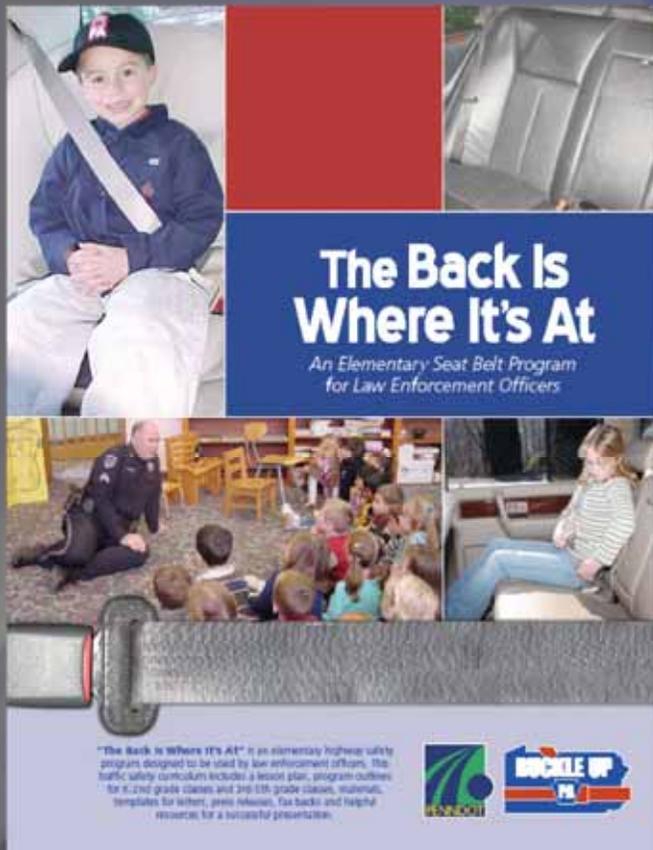


# Educational Interventions

- ATT's educational component used three different instructional tools to address the Tween population. Each program was developed to directly meet the educational and developmental needs of students in the targeted age group. All educational interventions were presented by trained, uniformed law enforcement officers.



# The Back Is Where It's At Elementary Program



3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> GRADES

- Positioning
- Booster Seats
- Proper Belt Placement
- Crash Dynamics
- Entire Family Usage

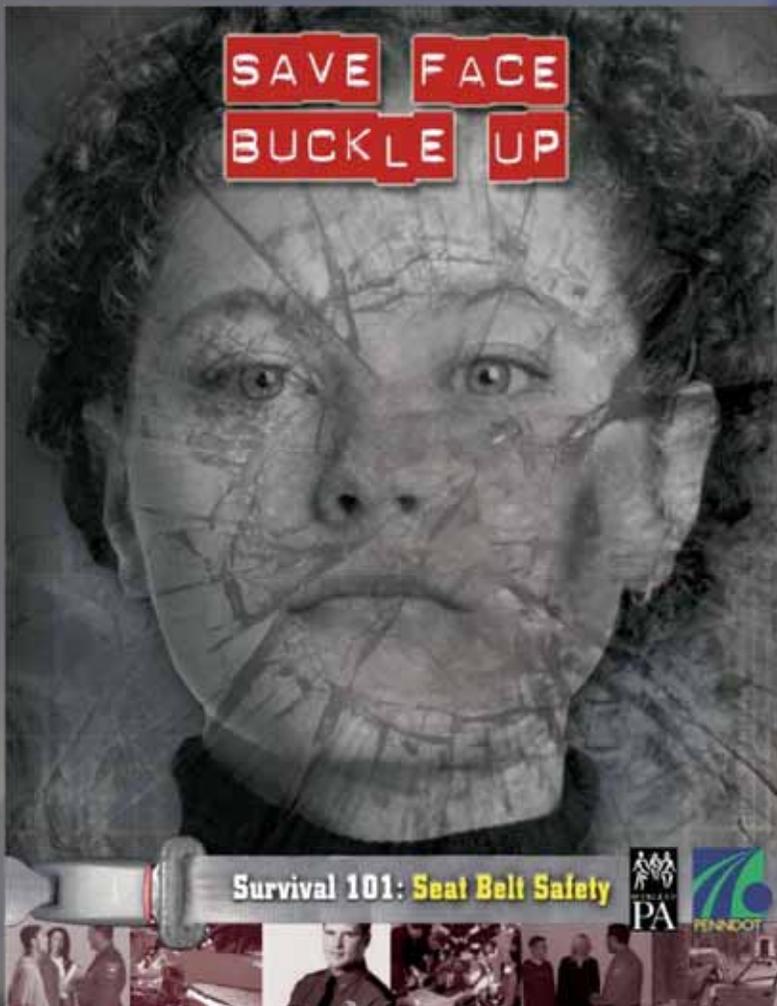


## Officer and student involvement

- Interactive student involved programming
- Older student assistance

# SURVIVAL 101

A Student's Guide to Staying Alive  
for Middle School





## 6h, 7th, and 8th Grades

- Choices as a passenger
- Crash Dynamics
- Proper belt placement
- Preparing to Drive

# 16 MINUTES

For High School Students





## Fifteen turning Sixteen

- Perception and Reality behind the wheel
- Driving characteristics, and how seat belts save lives
- “CIOT” and consequences
- Driving is a privilege, not a right

# Training Sessions



- Elementary
- Middle
- High School



# Educational Trainings



- A total of 16 training sessions were conducted, (13 for educational interventions and three for enforcement interventions). A total of 73 municipal and state police officers attended the trainings.

# Judicial Outreach

- All Berks County District Judges were invited to a luncheon in Reading. This was funded through Buckle Up PA. Twelve attended, and subsequent meetings were held with those who could not attend
- A brief synopsis of ATT was presented and Judges were provided with the results of the pre-observational surveys and the KAB postcards
- The importance of police writing a second citation for an occupant protection violation was stressed.
- Judges were briefed on the enforcement and educational interventions undertaken.
- Many Judges commented favorably that education was considered a critical component and the effort was not simply enforcement driven.



# Pre Evaluation

- Pre-evaluation data gathered Nov 2005–February 2006
- Observational Surveys conducted and postcard distributed at treatment and comparison schools
- Community partners instrumental in providing assistance: Berks County Safe Kids, Pa. Dept. of Health, Greek Life Association from Kutztown University, student school volunteers



# Kickoff

- Kickoff in February 2006 in conjunction with Child Passenger Safety Week
- All public and private partners invited to kickoff
- Radio, Print, and cable tv media attended



# Educational Interventions

- A total of 421 educational interventions were conducted in the participating school districts at the elementary, junior high, and high school level. These resulted in 14,073 contacts through educational interventions. The breakdown by school level follows:
- **Grades 3, 4, 5:** There were 97 presentations of “The Back Is Where It’s At” with 4,032 students attending the presentations.
- **Grades 6, 7, 8:** There were 98 presentations of “Survival 101: A Student’s Guide to Staying Alive” with 5,867 students attending.
- **15 Year Olds:** There were 136 presentations of “Sixteen Minutes” with 1,525 students attending.
- **Parent Groups:** There were 29 presentations to parent groups resulting in 507 contacts.
- These were all Tween-related educational activities.
- In kind contributions from police and/or Buckle Up PA also resulted in Survival 101 being presented to 61 classes of Driver Education students resulting in 2,142 additional student contacts.

# Enforcement

- Over 318,000 contacts through 798 enforcement interventions
- A contact is anyone exposed to an enforcement intervention
- Majority reached by minicade and informational sites
- Almost 2100 arrests/citations including 150 occupant protection violations, , 7 felony arrests, 10 DUI arrests, 10 drug related arrests, and 13 warrants served on wanted persons
- Other enforcement activities occurring during this time included 4 NHTSA sponsored mobilizations.



# Support Groups

- Berks County Safe Kids Association
- Berks County Chief's of Police
- Pennsylvania Department of Health
- Triple AAA of Reading
- High School Service Clubs
- College Service Groups
- Western Berks EMS
- West Reading Airport



# Earned Media

- Earned and paid media included a combination of radio, newsprint, and television exposure. Media outlets were invited to participate in planning activities and educational and enforcement interventions.
- Radio public service announcements were created using police, students, and parents.
- Informational kits containing inserts for school newspapers and/or newsletters were provided to each school district.
- A handout generated specifically for ATT was provided to police for distribution during enforcement interventions.
- Support was requested from outdoor advertising companies and local businesses.
- Media advisories released periodically throughout the grant
- There were 25 earned media events as part of ATT. Coverage resulted in 16 newspaper articles, 6 radio interviews, and 3 television spots.



# Paid Media

- Paid media funding was reserved until the final months of the project
- Using the Tween handout created by the management staff and approved by NHTSA, partial page ads were purchased in the four major newspapers in Berks County. This was done in late April 2007. These newspapers had a combined circulation of 95,000.
- Additional air time for public service announcements with WRFY Radio, whose primary listening audience is in the 25- to 54-year-old age group, was also purchased. In addition to their in kind efforts, the public service announcements were aired an additional 60 times per week over a three week period in April and May of 2007. WRFY's typical listening audience is 100,000 with a potential of 300,000.

# Interim Analysis

- At request of NHTSA, interim observational surveys were conducted in February and early March 2007
- These were conducted at random locations in treatment location and at all locations in comparison location
- Conducted by off duty/out of uniform police officers under same guidelines as pre and post observational surveys

# Post Evaluation

- Pre-evaluation data gathered Nov 2005-February 2006
- Observational Surveys conducted and postcard distributed at treatment and comparison schools
- Community partners instrumental in providing assistance: Berks County Safe Kids, Pa. Dept. of Health, Greek Life Association from Kutztown University, student school volunteers



# CONCLUSIONS AND RECOMMENDATIONS

- Future programs to improve Tween seat belt use must focus on three strategic areas: education, enforcement, and legislation. Police-presented educational programs, targeted for specific Tween audiences by school type, are highly recommended. Educational programs should be integrated with established enforcement campaigns (e.g. Click It or Ticket) to maximize effectiveness
- Publicity about “the message” also is important. The most efficient, and probably most cost-effective, medium for this age group is radio. Radio outreach far surpasses other traditional media for this type of program. This was evident in the responses from Tween children who overwhelmingly reported hearing the about programs on the radio. Earned and paid media using newsprint also contributes to outreach. Billboards along major community highways can also make a difference. The use of electronic media (e.g. websites, forums) should be strongly considered because the target group is uniquely comfortable with the Internet and digital devices.

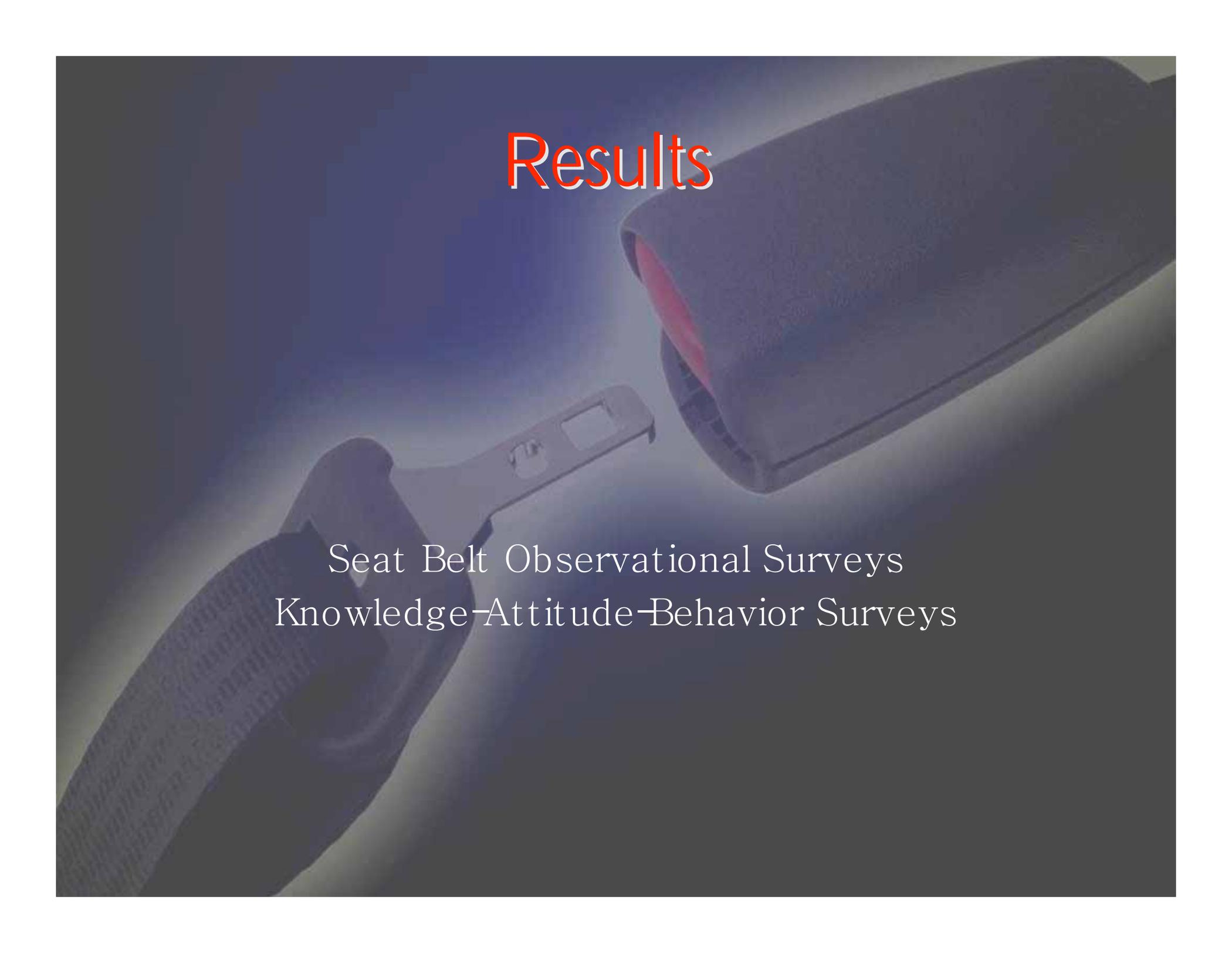
# CONCLUSIONS AND RECOMMENDATIONS

- Customized educational programs worked well at elementary, middle, and high school levels. Extensive law enforcement participation and exceptional cooperation from the school districts were critical factors to program success. The level of cooperation and saturation of intervention programs across the community required a significant amount of time and effort from a project coordinator with experience interacting with local law enforcement and community officials. Many of the community law enforcement had been involved in other State and/or federal occupant protection programs in the past. It is likely that these experiences factored in their willingness to eagerly cooperate in the program, as well as provided opportunities to facilitate stories in the local media. In addition, the project coordinator and North Central Highway Safety Network (NCHSN) staff have delivered a wide range of highway safety programs in Berks County as part of a contract with PennDOT. There is no doubt the past relationships with community officials was important in gaining cooperation to assist in promoting and conducting some of ATT activities.

# CONCLUSIONS AND RECOMMENDATIONS

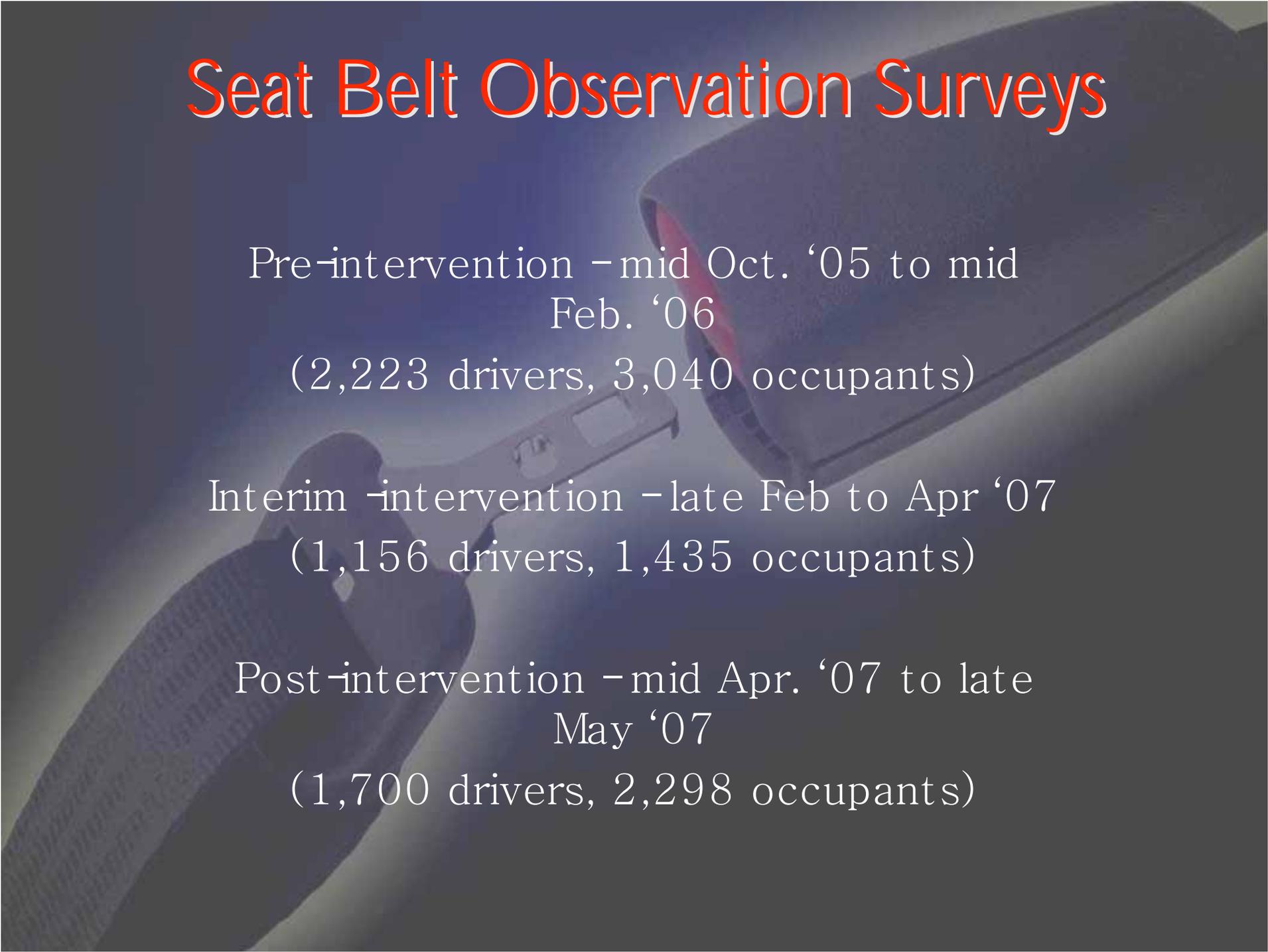
- High visibility is the key for enforcement strategies. Consistent enforcement of restraint laws, utilizing roving patrols and checkpoints, maintains a high awareness of ongoing enforcement in the community. In addition, when law enforcement plays an active role in the community by educating students, participating at health fairs and safety-oriented events; and appearing in media spots, the importance of restraint use is recognized by members of the public who may otherwise see police as authority figures.
- In terms of legislation, Pennsylvania currently has a secondary enforcement seat belt law. Seat belt use rates are higher in States with primary seat belt laws (Glassbrenner and Yye, 2006); and as this project has shown, children are more likely to buckle up when drivers do. This legislative action alone could have significant positive outcomes for increasing seat belt use among Tweens.

# Results

A close-up photograph of a seat belt buckle and strap against a dark blue background. The buckle is on the left, and the strap is extending towards the right. The lighting is dramatic, highlighting the texture of the fabric and the metallic parts of the buckle.

Seat Belt Observational Surveys  
Knowledge-Attitude-Behavior Surveys

# Seat Belt Observation Surveys



Pre-intervention – mid Oct. '05 to mid  
Feb. '06

(2,223 drivers, 3,040 occupants)

Interim –intervention –late Feb to Apr '07  
(1,156 drivers, 1,435 occupants)

Post-intervention –mid Apr. '07 to late  
May '07

(1,700 drivers, 2,298 occupants)

# Characteristics of Study Sample

(pre- and post intervention periods)  
(treatment and comparison sites)

Sex - 2/3rds - Female (both periods)

Race - 90% White (both periods)

## Vehicle type

Passenger Vehicles	47%/39%
SUVs	24%/36%
Mini-vans	19%/18%
Pickup trucks	9%/6%

## Number of Occupants

Two (driver and 1)	65%/73%
Three (driver and 2)	27%/22%
Four (driver and 3)	7%/7%

# Seat Belt Use

Overall (all test schools)	16% improv to 85%
Overall (all control schools)	18% decline to 31%
Position in back (elem test schs)	13% improv to 54%
Position in back (elem control schs)	8 % decline to 25%
Driver SB use (test)	12% improv to 81%
Driver SB use (control)	14% decline to 36%

\*  $p < .005$  significance using Chi-Square Test

# Seat Belt Use by School Type Test Sites

## Pre to post intervention Periods

Elementary Schools  
Middle Schools  
High Schools

13 % age point improv to 87%  
17 % age point improv to 82%  
20% age point improv to 82%

# Tween Seat Belt Use in Relation to Driver Seat Belt Use

(treatment and comparison sites combined)

## Pre-intervention Period

Drivers in SB – 85% (all) Tweens belted

Drivers unbelted – 29% (all) Tweens belted

## Post-intervention period

Drivers in SB – 90% (all) Tweens belted

Drivers unbelted – 34% (all) tweens belted

# Knowledge-Attitude-Behavior (KAB) Surveys\*

Pre-intervention surveys (Jan to Feb '06)  
(9,809 Tween Students)

Post-intervention surveys (Apr to May  
'07)  
(6,699 Tween Students)

\*Administered by law enforcement officers.

# Results

## Tween Characteristics

(pre- and post-intervention periods)

Sex - 50/50 (test/comparison)

Race - White - 88%/86%

Age - 8 to 10s - 30% / 35% (test)

14% / 6% (com)

Age - 11 to 13s - 43% / 36% (test)

26% / 46% (com)

Age - 14 to 15s - 56% / 47% (test)

32% / 24% (com)

# "Do your parents wear seat belts?"

All Schools

"Yes" - 6% age point improv (test) to 65%

5% age point improv (comp) to 63%

# How often do you wear a seat belt?

"Always" (response)

## All schools\*

5% age point improv to 74% (test)

13% age point improv to 65% (comp)

## High schools

-18% age point improv to 71% (test)

21% age point improv to 58% (comp)

\* "Always" responses much higher with elementary school Tweens 79% to 82% (test) and 82% to 80% (comp)

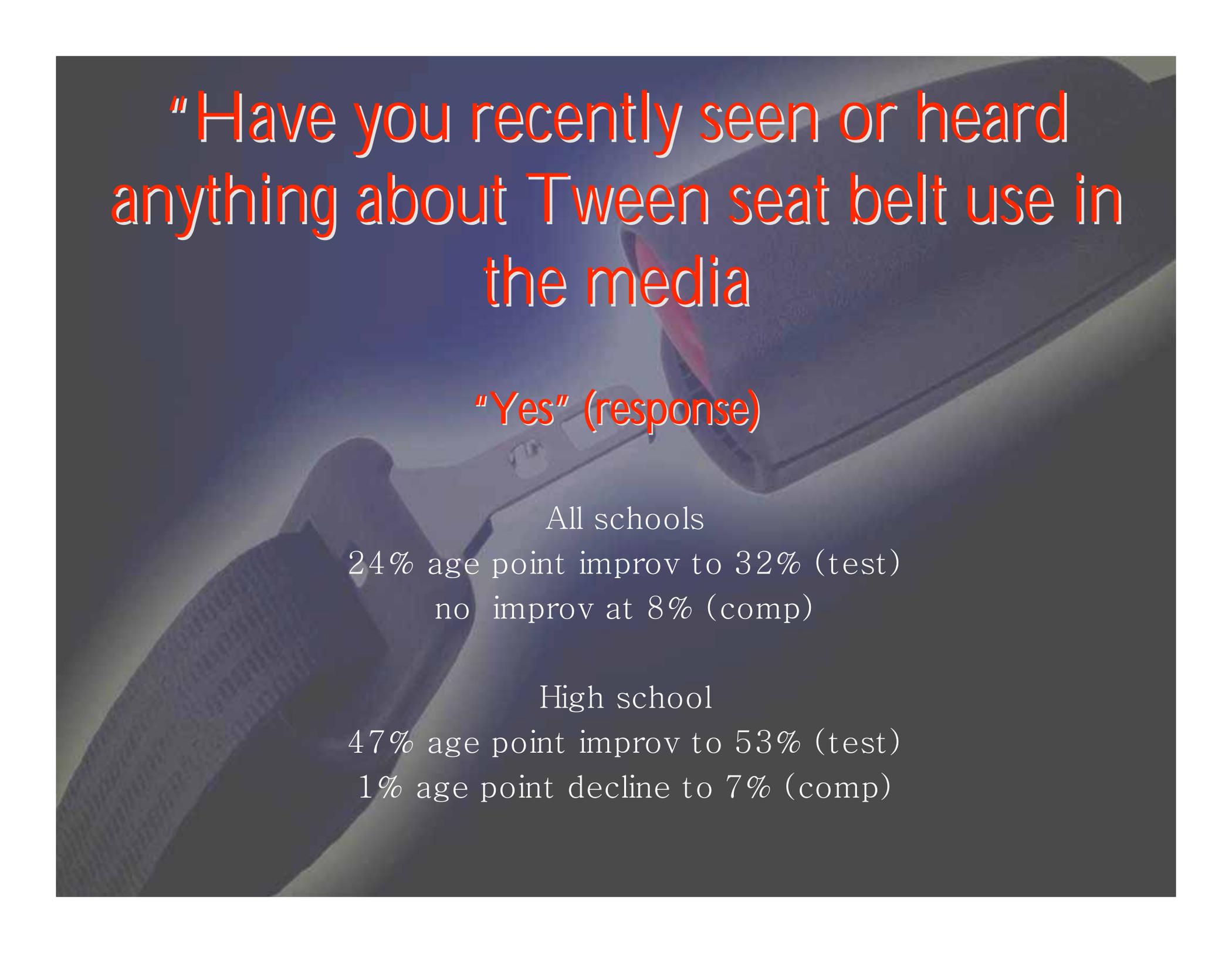
# Where do you normally sit while in the vehicle?

"Back Seat" (response)

Elementary School Tweens

10% age point improv to 47% (test)

3% age point decline to 36% (comp)



“Have you recently seen or heard  
anything about Tween seat belt use in  
the media

“Yes” (response)

All schools

24% age point improv to 32% (test)  
no improv at 8% (comp)

High school

47% age point improv to 53% (test)  
1% age point decline to 7% (comp)

# Where have you recently seen or heard anything about Tween seat belt use in the media?

TV	18% age point decline to 52% (test) 8% age point decline to 57% (comp)
Radio *	73% age point improv to 90% (test) 14% age point improv to 31% (comp)
Newspaper	3% age point decline to 14% (test) 6% age point improv to 21% (comp)
Billboard	19% age point improv to 36% (test) 7% age point improv to 24% (comp)

\* primary media used in campaign

# "Traffic safety messages participants indicated they had heard"

*"The Back is Where It's At"* elementary tween program

40% age point improv to 50% (test)

5% age point improv to 10% (comp)

*"Survival 101"* middle school tween program

54% age point improv to 60% (test)

2% age point decline to 5% (comp)

*"16 Minutes"* high school tween program

59% age point improv to 62% (test)

1% age point decline to 2% (comp)

# Why do you wear your seat belt?

## Eight response categories

uncomfortable	7%age + (to 43%) (t)	7%age + (to 38%) (c)
ticket from police (c)	6%age + (to 73%) (t)	5%age + (to 66%)
heard message TV/radio (c)	no change (12%) (t)	3% age -(to 6%)
parents insist (c)	3%age + (to 72%) (t)	6% age + (to 70%)
friends remind me	2% age + (to 16%) (t)	1% -(to 12%) (c)
teacher reminds me	5% age + (to 16%) (t)	2% age -(to 5%) (c)
it's the law (c)	7% age + (to 81%) (t)	7%age + (to 74%)
I don't wear a seat belt	1% -(to 8%) (t)	8%age -(to 8%) (c)

# Conclusion of Evaluation

## Something Went On!

Seat belt use increased significantly across the Tween school groups from the pre- to post-intervention period in the test site communities; and at the same time decreased in the comparison communities across the Tween school groups

Post card survey results showed Tweens were aware of back seat and seat belt programs going on in their schools.

Awareness by radio was remarkably high, but was logical, since this was the media predominantly used in the intervention period.